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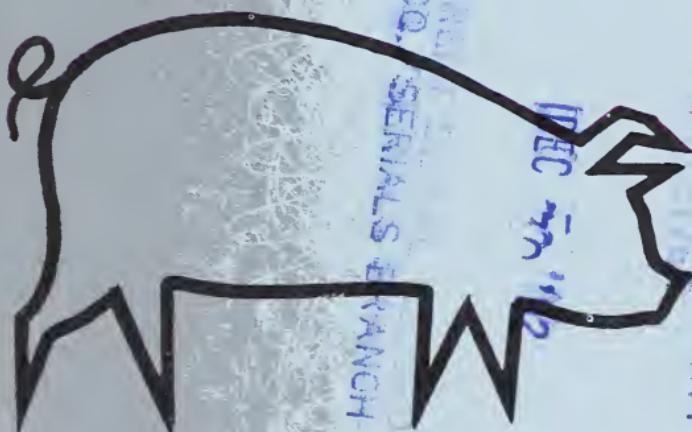
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HOG

CHOLERA



Agricultural Research Service  
U.S. DEPARTMENT OF AGRICULTURE

PA-577

(R)

**What you should know about-----**

# **HOG CHOLERA**

## **WHAT HOG CHOLERA IS . . .**

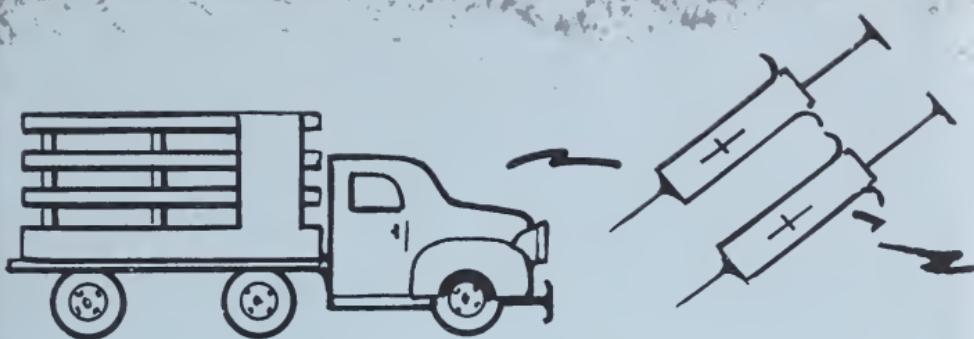
Hog cholera is an infectious, contagious disease that affects only swine. The disease, which is caused by a virus, can be highly fatal. In some instances, however, it can appear in chronic form, with low death losses over an extended period of time. In the past, it has been estimated that hog cholera cost the swine industry about \$50 million annually, or approximately 45 cents for each pig marketed. In addition, a number of foreign countries restrict or prohibit importation of pork from the United States.

## **WHERE HOG CHOLERA IS FOUND . . .**

The first recognized outbreak of hog cholera in the United States probably occurred in Ohio, in 1833, and from there spread throughout the country. The disease is now found in all foreign countries producing swine with the exception of those where effective eradication programs have been undertaken—Canada, for instance.

## **WHAT CAUSES HOG CHOLERA . . .**

Hog cholera may be caused by any of a number of strains of hog cholera virus. While these strains may vary in virulence from time to time, tests have shown they can be kept active for at least 7 years when placed in a preservative. The virus will survive in pork products for months, and will live for as least 6 months in pickled, salted, and smoked meats. The ability of the virus to exist outside its host depends on the temperature. Freezing tends to preserve the virus while heat tends to kill it. In experimentally contaminated manure water, it lived from 2 days to 7 weeks.



## HOW HOG CHOLERA IS SPREAD . . .

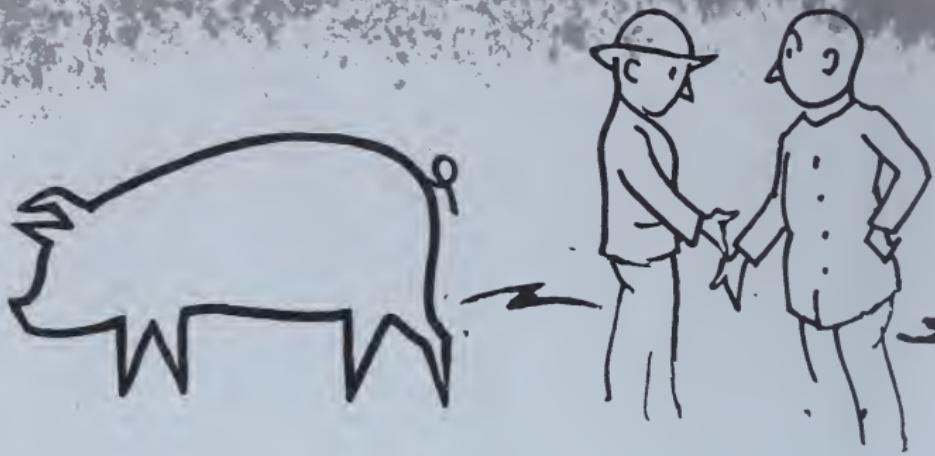
Hog cholera virus enters the animal's body through the mouth, nose, eyes, or through wounds or abrasions of the skin. A susceptible pig gets the disease by contact with infected animals or with contaminated facilities and premises.

Common methods of spread are by :

- Adding infected pigs to a susceptible herd.
- Marketing apparently healthy pigs from a herd where hog cholera exists.
- Transporting pigs in contaminated vehicles or housing pigs in contaminated premises.
- Disposing of dead animals improperly. Dogs, crows, and other animals or birds may carry the disease from infected carcasses.
- Feeding uncooked or improperly cooked garbage. Raw pork scraps in such garbage may contain hog cholera virus.
- Carrying the disease on clothing, equipment, or vehicles from an infected to a healthy herd.

Transmission through the pregnant sow :

- Field evidence indicates that the pregnant sow may harbor and transmit hog cholera virus through her offspring, without showing clinical evidence of illness herself. Sows exposed to hog cholera virus—either field strains or modified live virus vaccines—during pregnancy have, in some instances, transmitted the disease to their unborn pigs. The pigs thus carry the virus at birth and can transmit it to susceptible hogs.
- Hog cholera may not be recognized in baby pigs because the usual symptoms and post mortem findings are not present. Often



the disease develops slowly—or appears in chronic form. In many cases, hog cholera is not detected until it has spread to older susceptible pigs.

## HOW TO TELL IF SWINE ARE INFECTED . . .

Hog cholera is a blood infection. When the virus enters the pig's body, it passes to the blood-stream and develops there. The blood becomes infectious within 12 to 20 hours after the virus enters the animal's body. The urine and manure usually contain the virus within 3 days. Secretions of the eyes and nose also become infectious by the third day.

Pigs seldom show symptoms before the fourth day and may fail to show symptoms for 7 days or longer. Maximum growth of virus is usually reached in 6 to 8 days. However, infected animals can transmit the disease before any symptoms appear.

A standard diagnostic procedure for hog cholera has been developed. This procedure includes both laboratory tests and field examination by a qualified veterinarian.

Hog cholera may be suspected if your hogs show any of the following signs:

- Fever—often 105° F., or higher. Temperature usually stays above normal for several days, then gradually drops, often becoming subnormal.
- Loss of appetite. Pigs may appear depressed and become inactive.
- Loss of coordination—especially in the hindquarters. Pigs may stagger and sway as they walk, and eventually collapse in any position. This symptom is most easily seen just after pigs are made to get up and walk.
- A tendency for pigs to pile on one another. As the disease progresses, the pigs may tend



to go off from the rest of the herd and lie alone.

- Fits or convulsions. This is not a common symptom, but does occur in some cases.
- Purplish discoloration or blotching of the skin. This is most often seen on the ears, snout, or abdomen, and is most apparent in white hogs or in light-skinned areas of other breeds.
- Constipation in early stages of infection. A yellowish gray diarrhea develops after the animal has been sick a day or more. Diarrhea often gets progressively worse.
- Vomiting.
- Eye discharge during early stages of the disease. Later, this discharge becomes thicker and gums the eyelids together.
- "Shaker" pigs—or other trouble at farrowing. Abortions; stillborn or weak pigs; weak pigs which die soon after birth; "shaky" or "jittery" pigs; or a high mortality from birth to weaning may be indicative of hog cholera.

*However, many hog cholera symptoms resemble those common to other diseases. Also, some forms of hog cholera do not show typical symptoms. If your pigs are sick, call your veterinarian at once.*

## HOW TO PREVENT HOG CHOLERA . . .

- Purchase replacement animals from a reputable source. Follow State and Federal shipping rules.
- Isolate replacement animals from the main herd for at least 21 days.
- Avoid contact with infected herds; discourage visitors from entering areas where swine are kept.

- Don't feed raw garbage (including household scraps) to hogs.
- If you are in an area where hog cholera outbreaks occur year after year, maintain a vaccinated herd.

## **VACCINATION FOR HOG CHOLERA . . .**

For most effective results, hog cholera vaccination should be done when animals are healthy. Keep in mind also that the degree of immunity may vary from one animal to another. Also, no vaccine should be expected to provide immunity in all cases. The following immunizing agents may be used to help prevent hog cholera:

### **A. Anti-Hog-Cholera Serum**

Anti-hog-cholera serum (or antibody concentrate), made from the blood of hogs that have been highly immunized against the disease, provides immediate immunity to nonexposed hogs. This immunity lasts 2 to 3 weeks or more, depending on the pig and the amount of serum used. Since the effect is temporary, it is normally used to provide only emergency protection to susceptible pregnant sows or to pigs afflicted with some other disease than hog cholera which has caused them to become too weak to tolerate full vaccination. Use of too much serum may block action of other vaccines, thus preventing development of immunity. Also, Federal regulations prohibit interstate shipment of feeder pigs or breeding swine treated with serum alone.

### **B. Modified Live Virus Vaccine**

Modified live virus vaccines are prepared by repeated passage of virulent virus through a different host—until the virus is altered to greatly reduce its disease-producing ability.

In order to produce immediate and lasting protection, it is recommended that anti-hog-cholera serum be used with all modified live virus vaccines.

Pregnant sows should not be vaccinated with these vaccines. Also, nursing sows should not be vaccinated with modified live virus vaccines.

Pigs freshly vaccinated with modified live virus vaccines should be isolated from unvaccinated animals for a period of 21 days and from pregnant or nursing sows.

## C. Killed Virus Vaccine

Killed virus vaccines are made from live virus that has been inactivated by chemical treatment. There is no danger of spread from these vaccines. Anti-hog-cholera serum should not be used with these vaccines.

Killed virus vaccines produce immunity lasting several months. However, immunity doesn't become established for about 3 weeks after vaccination. Therefore, these vaccines should not be used on pigs that have been exposed to hog cholera.

To obtain maximum immunity, pigs must be fully susceptible. Since immune sows pass along some resistance to their suckling pigs, such pigs should not be vaccinated with these vaccines until at least 2 weeks after weaning. Breeding stock should be revaccinated every 6 months.

Killed virus vaccines can be safely used on pregnant sows and unthrifty pigs, if vaccination is necessary.

The use of anti-hog-cholera serum and the various hog cholera vaccines is subject to certain other limitations. For example, pigs afflicted with anemia may in some cases develop shock following the use of anti-hog-cholera serum.

In rare cases, some normal pigs in a herd may be particularly susceptible to hog cholera. Vaccination except with killed virus vaccine may cause these animals to develop the disease even though the same vaccine immunizes other pigs.

Infectious diseases, such as swine influenza, bacterial pneumonia, swine dysentery, malignant edema, swine pox, erysipelas, enteritis, rhinitis, and other diseases may reduce a pig's ability to develop immunity.

Pigs may also fail to develop immunity when resistance is lowered by parasites, deficient or unbalanced rations, unsanitary conditions, or when exposed to unfavorable weather or other stress.

Pigs treated with anti-hog-cholera serum alone, and vaccinated later with modified live virus vaccine—with or without serum—may not be immunized. This is because the protective antibodies of the first serum treatment may not have disappeared by the time the pigs are vaccinated. These antibodies block the action of the vaccine and prevent immunization.

## TREATMENT FOR HOG CHOLERA . . .

No effective cure for hog cholera has been developed. When large doses of anti-hog-cholera serum are given exposed, unvaccinated pigs in very early stages of the disease, or before symptoms appear, some animals may recover. However, there is a possibility that some of these animals may continue to carry the virus.

## WHAT TO DO WHEN YOU SUSPECT HOG CHOLERA . . .

- Isolate sick animals immediately.
- Notify your local, State, or Federal veterinarian immediately so that he can examine the herd and arrange for all necessary laboratory tests.
- If the disease is found, observe all quarantines and cooperate fully with the veterinarians to locate the source of infection and prevent further spread.
- Follow the "Golden Rule" for hog cholera prevention: Protect your neighbor as you would have your neighbor protect you.

Animal Health Division

Agricultural Research Service

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